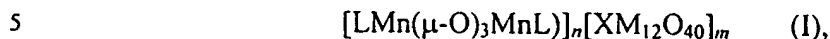


Claims

1. Manganese(IV) complex salts of formula



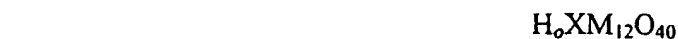
wherein L is 1,4,7-trimethyl-1,4,7-triazacyclononane, X is P or Si, M is Mo or W, n is 2 or 3, and m is 1 or 2, with the provisos that

- (i) if X is Si, then $n = 2$ and $m = 1$ and
 10 (ii) if X is P, then $n = 3$ and $m = 2$.

2. A process for the production of the manganese(IV) complex salts of claim 1, which process comprises reacting a solution of the hexafluorophosphate of formula



wherein L is as defined in claim 1, with a heteropolyacid of formula



wherein X and M are as defined in claim 1, $o = 4$ for X = Si and $o = 3$ for X = P, and subsequently isolating the precipitated manganese(IV) heteropolyacid complex salt.

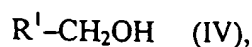
3. Use of the manganese(IV) complex salts of claim 1 as catalysts in the partial oxidation
 25 of organic compounds with peroxy compounds.

4. A process for the production of aldehydes and/or carboxylic acids of formula



wherein R^1 is linear or branched C_{1-10} -alkyl, aryl or aryl- C_{1-4} -alkyl, comprising reacting an alcohol of formula

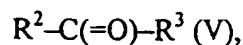
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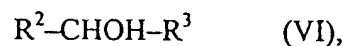
wherein R^1 is as defined above, with a peroxy compound in the presence of a manganese(IV) complex salt of claim 1.

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5. A process for the production of ketones of formula



- 10 wherein R^2 and R^3 are independently linear or branched C_{1-10} -alkyl, aryl or aryl- C_{1-4} -alkyl; or R^2 and R^3 together with the carbonyl group form a carbocyclic ring, comprising reacting an alcohol of formula



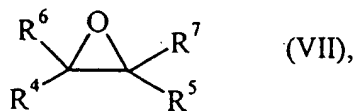
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wherein R^2 and R^3 are as defined above, with a peroxy compound in the presence of a manganese(IV) complex salt of claim 1.

6. A process for the production of 1,4-cyclohexanedione, comprising reacting 1,4-cyclohexanediol with a peroxy compound in the presence of a manganese(IV) complex salt of claim 1.

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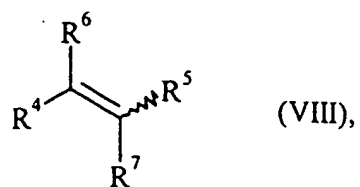
7. A process for the production of oxiranes of formula



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wherein R^4 , R^5 , R^6 and R^7 are independently hydrogen, linear or branched C_{1-10} -alkyl, aryl or aryl- C_{1-4} -alkyl; or R^4 and R^5 together with the adjacent carbon atoms form a carbocyclic ring and R^6 and R^7 are as defined above, comprising reacting an olefin of

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wherein R^4 , R^5 , R^6 and R^7 are as defined above for formula (VII), with a peroxy compound in the presence of a manganese(IV) complex salt of claim 1.

- 5
8. A process for the oxidation of aliphatic, alicyclic or araliphatic hydrocarbons to the corresponding hydroxy or keto compounds, comprising reacting said hydrocarbons with a peroxy compound in the presence of a manganese(IV) complex salt of claim 1.
- 10 9. The process of one of claims 4 to 8 wherein acetic acid is used as additive.